

Appl. No. 09/628,669
Amdt. Dated May 28, 2004
Reply to Office Action of January 29, 2004

REMARKS

Reconsideration of the above-mentioned reissue patent application is hereby requested in view of the above amendments, and remarks which follow.

The Office Action mailed on January 29, 2004, is acknowledged. Applicants request reexamination of the above-mentioned application in view of the above amendments and remarks which follow. Applicants appreciate the thorough examination by the Examiner and in the indication of allowable subject matter.

Claims 1-26, 38-42 and 47-54 are pending in this application. Claims 1-18, 23-26, 38-42, and 47-54 are allowed. Claims 19-22 are rejected.

The Examiner has rejected Claims 19-22 under 35 U.S.C. §103(a) under a combination of four references, Roberts (U.S. Patent 3,760,334); Henschen, et al. (U.S. Patent 3,663,930) and in view of Chau, et al. and Martens (U.S. Patent 4,582,386).

Roberts (U.S. Patent 3,760,334) discloses receptacle and plug connectors including a plurality of contact elements to interconnect a plurality of cables. The two electrical connectors provide an interconnection as shown in Figures 4 and 5 to interconnect twisted pair cables 8, 10. However, in Roberts, no power contacts are shown where plural contact fingers extend from a common body portion. Rather Roberts shows a telephone connector, where contact

portions 58' are interconnectable to contact members 50 in the mating connector, as shown in Figure 4. Each of these contacts are discrete from each other and are interconnected to discrete wires as also shown in Figure 4.

Henschen, et al., (U.S. Patent 3,663,930) shows disengageable connectors where one connector part has a channel shaped female pin 4 which projects out of its associated housing beyond end face 91 (see Figure 4a) to interconnect with a mating contact 2. This contact 2 includes springs 16, 18 positioned between side walls 22 and a forward web 12.

Martens (U.S. Patent 4,582,386) shows a connector with one or more contacts, where some contacts are enlarged to handle larger currents. The male power contacts 41 are tab style contacts of a single thickness of material, as shown in Figures 5a, 5b.

Chau et al. shows a printed circuit board connector having a housing with a printed circuit board slot at 46. Chau et al. shows both signal 50, 52 and power 58, 58a contacts positioned on opposite sides of the slot 46. Each of the signal and power contacts are discrete contacts, that is, each contact on opposite sides of the printed circuit board slot 46 are discrete from its opposed contact in the same position. In this way, each of the contacts, particularly the power contacts, contact separate pads on opposite sides of the printed circuit board, but are not interconnected to each other.

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For numerous reasons, Applicants respectfully disagree with the Examiner's rejection of claims 19-22, under 35 U.S.C. §103(a).

Firstly, Applicants believe that even the combination of the four references, as now combined by the Examiner, do not combine to teach the invention claimed by Applicants. Thus, even with the combination of four references, even if combinable, would not yield the invention as claimed in claim 19. The Examiner has not shown a connector system where at a minimum, the following features are shown:

- 1) the power contacts of the connector include a base or body portion and plural contacts extending therefrom;

- 2) the contact fingers have resiliently deflectable portions which extend in a cantilevered manner;

- 3) the contacts fingers are unsupported at their ends; and

- 4) the resiliently deflectable contacts are received within mating contacts where the plural contacts deflect towards each other.

As for Point 1 mentioned above, Roberts does not disclose a power contact where plural contacts extend from a common body portion. Rather, Roberts shows single contacts connected to discrete wires.

Furthermore, as to Points 2 and 3, Henschen does not disclose a contact where the contact elements are cantilevered and freely suspended at their free ends. Rather, Henschen shows a web portion 10 which interconnects and rigidifies the contact portions 18.

Finally, with respect to Point 4, Martens does not show a contact where the contact elements are deflectable towards each other, but rather shows a contact where the contact elements are deflectable away from each other, as contact elements 62, 63 must engage and expand over, tabs 66a, 67a.

Thus, to arrive at the invention of claim 19, the skilled artisan must toss out the teachings of the individual references, and arrive at the following conclusion: that a power contact such as Martens can be modified (against its teaching) to contract rather than expand, that is to deflect against each other rather than to expand over the tab 66a, 67a which is shown. Once the skilled artisan learns this, he/she must look to Henschen and know that the web should be removed to provide cantilever beams extending freely unsupported. Then the artisan provides the twice modified contacts into a housing such as Roberts.

Applicants believe this is pure hindsight reconstruction, and that no skilled artisan would go through such mental gymnastics, and come to the invention and conclusion of present claim 19. In fact Applicants believe that there is no teaching or suggestion in any of the references for their combination, but rather that all

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references teach away from such modifications. As noted in In Re Gorman, the Fed Circuit indicated that:

it is impermissible, however, simply to engage in a hindsight reconstruction of the claimed invention, using the applicants' structure as a template in selecting elements from references to fill the gaps. *Interconnect Planning*, 774 Fed. 2d at 1143, 227 USPQ at 551. The references themselves must provide some teaching whereby the applicants' combination would have been obvious. 18 USPQ 2d 1885, at 1888.

As mentioned in Applicants' specification, and as supported by Applicant's claim terminology, Applicants' design provides power contacts which are profiled to accept larger currents and to enhance heat dissipation, whereas Henschen, et al. would preclude an adequate power connection and preclude heat dissipation if used for power contacts. That is, its small mass and the fact that it is in contact with an insulative material would detract from its heat dissipation capabilities. Therefore, the combination of Roberts and Henschen, et al. together with Chau, et al. and Martens cannot render Applicants invention obvious. While Chau, et al. and Martens discuss having separate signal and power contacts, there is absolutely no suggestion in any of the references to the combination of these four references. More particularly, there is no suggestion to provide the connector having both power contacts and signal contacts, where the power contacts are profiled according to claims 19-22. Thus, Applicants believe that there is no motivation to the combination whatsoever.

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In fact, Applicants believe that the references actually teach away from their combination. Martens shows a power tab contact, together with signal contacts. Roberts shows a subminiature-D style connector assembly where all contacts are of uniform size, and are used for interconnecting telecommunications cables. Chau et al. shows a printed circuit board style connector, where opposed power and signal contacts contact printed circuit board paths on opposite sides of a printed circuit board. Finally, Henschen et al. teaches making a connector profile as small as possible, with 0.004" of material stock and on 0.050" center line spacings. Certainly, this teaching could not suggest the provision of a contact which is larger in profile than the associated signal contacts. This would be a direct contradiction to its teaching.

Notwithstanding the above-mentioned arguments, Applicants have submitted amendments for claim 19 to better clarify Applicants' invention. In claim 19, Applicants have included the limitation that the power contacts have contact fingers which extend from the body portion of the power contact in a cantilevered manner. This allows for their resiliency upon mating with the corresponding power contacts. Even if the references used in the rejection by the Examiner, namely the combination of Roberts, Martens, Henschen, et al. and Chau, et al. is taken, claim 19 is allowable over this combination. None of these references even in combination show a connector system having both signal and power contacts, where the power contacts are comprised of contact fingers cantilevered from a base section which are receivable in a mating power contact

having opposed contact sections in a mating connector housing.

Applicants also question the viability of the Roberts and Henschen, et al. contacts for use with power. The Examiner indicated that both Roberts and Henschen, et al. show first and second electrical connectors having first and second power contacts. Applicants can find no reference to the fact that these connector contacts are used for power, and the discussion within the patents themselves would suggest otherwise. Certainly, neither reference shows signal and power contacts together, where the surface area is sufficiently broad to radiate heat (claim 21); nor, where the second power contacts are of greater mass than the signal contacts (claim 22).

Roberts, for example, discusses in Column 7, lines 60-68, that this particular connector is used for interconnecting twisted pair conductors of telecommunications cable. Thus Figure 1 of Roberts merely shows a spliced connection of two cable ends. Nowhere are power contacts discussed.

Henschen, et al., on the other hand, discusses printed daughter board connectors that are spaced apart by a distance of 0.050 inches (column 1, line 10). Furthermore, in column 3, lines 42-46, Henschen, et al. indicates that the contact terminals in accordance with the invention are manufactured from an extremely thin stock, for example, 0.004 inches in thickness. Thus, such small contacts having such thin material stock could not be used in a power

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distribution application similar to that anticipated and claimed by Applicants. Finally, with respect to Henschen, et al., as shown in Figure 6, the connector is shown as having wall portion 34 being positioned against inside surface 62 of the housing (and discussed in column 4, lines 14-16); whereas power contacts cannot be supported by a plastic housing.

In the Office Action dated January 29, 2004, the Examiner provides comments to Applicants' arguments regarding obviousness and the combinability of the references. First, the Examiner indicated that it is submitted that the disclosure of the prior art of Roberts and/or Henschen does not mention that their contacts can be used as power contacts, but that it does not mention that their contacts cannot be used as power contacts. The Examiner further opines that the contacts of Roberts and Henschen could therefore be used as power contacts since the use of power contacts are old and well known. Applicants believe that the test is not whether a reference specifically disclaims that it can be used in a particular application, as suggested by the Examiner, but whether the reference suggests modifying it that way. In re Gorman, *supra*.

Furthermore, the Examiner indicated that Henschen is used to show a contact configuration and that the contacts of Henschen could also be used as power contacts and not merely limited by their dimensions. As mentioned above, all the disclosure of Henschen would negate its use as a power

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contact, and without a specific suggestion otherwise, Applicants believe that the reference cannot be modified.

The Examiner also indicates that the secondary references to Martins and Chau et al., is a proper combination, since they are merely used to show that the use of power and signal contacts in a connector is old and well known in the connector art. The mere fact that these are different types of connectors is not significantly critical since it is known to use power and signal contacts in various different types of connectors and systems. Applicants are not trying to simply claim the use of power contacts and signal contacts in the same connector, but the connector having the characteristics of claim 19. This is simply not shown by the combination of references.

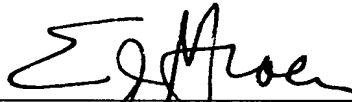
The Examiner also indicated that he believed that Applicants were arguing that the references failed to show power contacts comprised of contact fingers cantilevered from a base section were not recited in the rejected claim. While Applicants believe that limitation was in the prior claim 19, that claim has been amended herein to provide clarity to that limitation.

For all the foregoing amendments and remarks, Applicants believe the pending claim 1-26, and 38-42 and 47-54 are in condition for allowance and request early passage thereof.

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If necessary to effect a timely response, please consider this paper a request for an extension of time, and charge any shortages in fees, or apply any overpayment credits, to Baker & Daniels' Deposit Account No. 02-0387 (72249.20). However, please do not include the payment of issue fees.

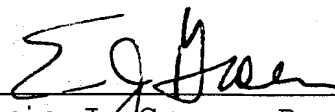
Respectfully submitted,



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